BY ORDER OF THE
SECRETARY OF THE AIR FORCE

AFMS 38AG
29 October 1996

Manpower Standard

★ *SECURE COMMUNICATIONS SYSTEMS MAINTENANCE ELEMENT*

★This Air Force Manpower Standard (AFMS) quantifies the manpower required to accomplish the tasks described in the process oriented description for varying levels of workload. It quantifies the manpower required to maintain cryptological and associated equipment, allowing the objective wing command and control function and other base support functions to send and receive classified, unclassified, and sensitive record and voice communications. The Secure Communications Systems Maintenance work center is responsible for the maintenance of electronic, electromechanical, and mechanical telecommunications and cryptographic equipment/systems such as bulk data encryption devices, secure voice equipment, weather dissemination equipment, multiplexers, and modems. This AFMS applies to all objective wing Secure Communications Systems Maintenance work centers during peacetime. It does not apply to Combat Communications Units, the Air National Guard, the Air Force Reserve, and units that have undergone a cost comparison study (OMB Circular A-76). The 21 series of Air Force Instructions (AFIs) contains responsibilities, policy, and procedural guidance for the Secure Communications Systems Maintenance work center. This AFMS was developed in accordance with policies and procedures contained in AFMAN 38-208, *Air Force Management Engineering Program (MEP)*. Send comments and suggested improvements on AF Form 847, **Recommendation for Change of Publication**, through channels, to AFMEA/AEDA, 550 E Street East, Randolph AFB, Texas 78150-4451.

★*SUMMARY OF CHANGES*

This AFMS supersedes 38AG, 15 November 1994. It implements format changes to comply with SAF requirements, and it includes minor administrative changes in the overall layout of the AFMS. The Process Oriented Description (Attachment 1) was updated to include performing equipment installations, relocations and/or removals. New equations were developed for all equipment types. Also, new variances were identified and developed; and variances that are no longer applicable were deleted. Changes are identified with a star (★).

1. Core Composition. The following factors were considered to determine the core manpower required for Secure Communications Systems Maintenance:

★1.1. **Equipment Requirements.** A base population of 3055, 54 Primary Aircraft Inventory (PAI), located on a base comprising 3500 acres assumes a flying mission. Necessary wing/base support functions required to carry out that flying mission are also required as defined in the Objective Wing structure. To support the primary flying and base support missions, a suite of cryptological and ancillary equipment, comprised of 8 KG-81s, 100 KG/SG-84s, 33 KG-94/194, 23 Patch Panels, 2 MC^3 Multiplexers, 19 Modems, and 37 Secure Voice Systems, needs to be provided.

1.2. **Level Of Service.** The level of service provided to support wing flying hours of 16 per day, 7 days per week, is single-shift maintenance at 40 hours per week with on-call maintenance for unscheduled after-hour requirements.

1.3. **Restoral Priorities.** Restoral priorities will be established and followed when personnel respond to multiple outages.

Supersedes AFMS 38AG, 15 November 1994
OPR: AFMEA/AEDA (TSgt James O. Elliott)
Certified by: AFMEA/AED (Lt Col Rudy K. Bruback)
Pages: 17/Distribution: F

1.4. **Indirect Work.** Indirect work involves those tasks that are not readily identifiable with the work center's specific product or service. The major categories of standard indirect work are supervision, administration, meetings, training, supply, equipment maintenance, and clean-up. Core man-hours for indirect work are computed in with equipment processes.

★1.5. **Core Manpower Required.** 2

★1.6. **Core Range.** 2-15 authorizations.

1.7. **Programming Factor.** None.

2. Standard Data:

★2.1. **Approval Date.** 2 October 1996

★2.2. **Man-hour Data Source.** Site Measurement.

★2.3. Man-hour Equation. $Yc = 1.252(X_1) + 0.9240(X_2) + 1.788(X_3) + 0.2980(X_4) + 4.763(X_5) + 0.1182(X_6) + 1.515(X_7) + 0.9674(X_8)$

2.4. **Workload Factors (WLFs):**

2.4.1. **Titles:**

2.4.1.1. **X_1.** A KG-81 Encryption Device Maintained.

2.4.1.2. **X_2.** A KG/SG-84 Encryption Device Maintained.

2.4.1.3. **X_3.** A KG-94/194 Encryption Device Maintained.

2.4.1.4. **X_4.** A Patch Panel Maintained.

★2.4.1.5. **X_5.** A MC^3 Multiplexer Maintained.

2.4.1.6. **X_6.** A Modem Maintained.

2.4.1.7. **X_7.** A Secure Voice System (KY-57/58, KY-65/75, KY-67/68, or KY-99/100) Maintained.

2.4.1.8. **X_8.** A Circuit Supported.

2.4.2. **Definitions:**

2.4.2.1. **X_1.** The number of KG-81 Encryption Devices maintained by the Secure Communications Systems Maintenance function.

2.4.2.2. **X_2.** The number of KG/SG-84 Encryption Devices maintained by the Secure Communications Systems Maintenance function.

2.4.2.3. **X_3.** The number of KG-94/194 Encryption Devices maintained by the Secure Communications Systems Maintenance function.

2.4.2.4. **X_4.** The number of Patch Panels maintained by the Secure Communications Systems Maintenance function.

★2.4.2.5. **X_5.** The number of MC^3 Multiplexers maintained by the Secure Communications Systems Maintenance function.

2.4.2.6. **X_6.** The number of Modems maintained by the Secure Communications Systems Maintenance function.

2.4.2.7. **X_7.** The number of Secure Voice Systems maintained by the Secure Communications Systems Maintenance function. Count equipment items KY-57/58, KY-65/75, KY-67/68 and KY-99/100. DO NOT include STU-IIIs as part of this WLF count.

2.4.2.8. **X_8.** This WLF is determined by first summing WLF values for X1, X2, and X3. This sum should then be multiplied by 0.5600 to determine the number of circuits supported for this workload factor.

2.4.3. **Sources:**

2.4.3.1. **X_1.** The Equipment Inventory Listing (EIL) maintained by the work center.

2.4.3.2. **X_2.** The Equipment Inventory Listing (EIL) maintained by the work center.

2.4.3.3. **X_3.** The Equipment Inventory Listing (EIL) maintained by the work center.

2.4.3.4. **X_4.** The Equipment Inventory Listing (EIL) maintained by the work center.

2.4.3.5. **X_5.** The Equipment Inventory Listing (EIL) maintained by the work center.

2.4.3.6. **X_6.** The Equipment Inventory Listing (EIL) maintained by the work center. Do not count those modems that are contractor-maintained.

2.4.3.7. **X_7.** The Equipment Inventory Listing (EIL) maintained by the work center.
2.4.3.8. **X_8.** This WLF is determined by first summing WLF values for X_1, X_2, and X_3. This sum should then be multiplied by 0.5600 to determine the number of circuits supported for this workload factor.

2.5. **Points of Contact:**
2.5.1. **Functional Representative.** MSgt Jerry L. Thomas, AFCA/SYNN.
2.5.2. **AFMEA Representative.** TSgt James O. Elliott, AFMEA/AEDA.

★**3. Application Instructions** (To help facilitate application, refer to the application worksheet at Attachment 5):

★3.1. **Step 1.** Determine equipment count.

★3.2. **Step 2.** Substitute the equipment count for the appropriate "X" in the man-hour equation (reference paragraph 2.3. above).

★3.3. **Step 3.** Determine any variance man-hours applicable to the work center (reference Attachment 3).

★3.4. **Step 4.** Add/Subtract the man-hours obtained in Step 3 to the man-hours obtained from Step 2.

★3.5. **Determining Manpower Requirements.** Divide the resulting man-hours by the appropriate man-hour availability factor (MAF) and overload factor. Use current rounding rules to determine whole manpower requirements.

★**4. Statement of Conditions.** The age and types of equipment maintained by this function have a direct impact on manpower requirements. The new equipment being fielded is much less manpower-intensive than the older equipment. This reflects a mixture of both old and new equipment. The core equipment is comprised of primarily newer equipment, while many of the variances reflect the older equipment. The measurement of this function includes all associated equipment (i.e., fill devices, fixed plant adapters, etc.).

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Attachments
1. Process Oriented Description
2. Standard Manpower Table
3. Approved Variances
4. Process Analysis Summary
5. Application Worksheet

PROCESS ORIENTED DESCRIPTION

Secure Communications Systems Maintenance Element

A1.1. PERFORMS EQUIPMENT PREVENTIVE MAINTENANCE INSPECTION (PMI). Receives and reviews PMI schedule; determines requirement; coordinates access and/or equipment release; gathers tools, test equipment and technical data; obtains classified material; prepares work area; loads maintenance keying material; performs service/inspection; reloads on-line keying material and performs operational check; coordinates equipment restoral; cleans work area; returns classified material; stores tools, test equipment and technical data; and documents action taken.

A1.2. PERFORMS EQUIPMENT FAULT ISOLATION/REPAIR. Receives notification of equipment malfunction; obtains and reviews technical data; coordinates access and/or equipment release; gathers tools, tests equipment, and spare parts; obtains classified material; prepares work area; patches equipment; loads maintenance keying material; performs fault isolation; removes/replaces assembly or faulty component; repairs equipment; reloads on-line keying material and performs operational check; coordinates equipment restoral; cleans work area; returns classified material; stores tools, test equipment, and technical data; and documents action taken.

A1.3. PERFORMS CIRCUIT TROUBLESHOOTING. Receives notification of circuit malfunction; obtains and reviews technical data; coordinates access and/or circuit release; gathers tools, test equipment, and spare parts; obtains classified material; prepares work area; and checks circuit by initiating/receiving test call, sending and receiving message, and performs audio/digital in-house and long-haul back-to-back loop test. Performs circuit restoral by: patching/replacing/reprogramming equipment, repairing circuit wiring, performing end-to-end verification and quality check, and returning operational circuit to user; deferring outage to outside agency; performing equipment fault isolation/repair (SEE PROCESS 2). Cleans work area; returns classified material; stores tools, test equipment, and technical data; and documents action taken.

A1.4. PERFORMS CONTINGENCY CIRCUIT ACTIVATION/DEACTIVATION. Receives notification; obtains tools, test equipment, and technical data; coordinates access and/or circuit release; obtains classified material; prepares work area; programs equipment, coordinates activation/deactivation, patches circuit, performs operational check, and provides activated/deactivated circuit to user; returns classified material; cleans work area; stores tools, test equipment, and technical data; and documents action taken.

A1.5. PROCESSES COMSEC MATERIAL. Determines requirement; orders and turns in COMSEC material; arranges transportation, inventories and receipts for COMSEC material; performs document check; conducts periodic inventory; performs COMSEC reading requirement; and changes COMSEC custodian.

A1.6. PERFORMS EQUIPMENT MODIFICATION. Receives notification of equipment modification; obtains and reviews technical data; coordinates access and/or equipment release; gathers tools, test equipment, and spare parts; obtains classified material; prepares work area; patches equipment; loads maintenance keying material; performs equipment modification; reloads on-line keying material and performs operational check; coordinates equipment restoral; cleans work area; returns classified material; stores tools, test equipment, and technical data; and documents action taken.

★**A1.7. PERFORMS EQUIPMENT INSTALLATION, RELOCATION, AND/OR REMOVAL.** Receives equipment action notification. Performs site survey, develops action plan, and coordinates work area requirement; obtains and reviews technical data; gathers/orders tools, test equipment, and parts/material; coordinates access and/or equipment release; obtains classified material; prepares work area; patches equipment and loads maintenance keying material (if required); performs equipment action; reloads on-line keying material and performs operational check (if required); coordinates equipment acceptance/restoral/shipment; cleans work area; returns classified material; stores tools, test equipment, and technical data; and documents action taken.

A1.8. CONDUCTS CUSTOMER EDUCATION. Receives request for customer training; prepares training material; conducts customer education; and documents action taken.

A1.9. PERFORMS EQUIPMENT SUPPLY ACTION. Inspects, repairs and processes repair cycle asset; orders equipment part for scheduled/unscheduled maintenance; and reviews/validates supply document.

★ **A1.10. PERFORMS VICINITY TRAVEL.** Performs travel to on/off-base equipment location for scheduled/ unscheduled maintenance during duty and nonduty hours. Vicinity travel includes travel to all locations on or off base that do not require personnel to be TDY.

STANDARD MANPOWER TABLE

WORK CENTER/FAC			**APPLICABILITY MAN-HOUR RANGE**								
Secure Communications Systems Maintenance			160.70 - 2410.50								
AIR FORCE SPECIALTY TITLE	**AFSC**	**GRADE**	**MANPOWER REQUIREMENT**								
Secure Comm Sys Crftmn	2E371	MSG									1
Secure Comm Sys Crftmn	2E371	TSG					1	1	1	1	1
Secure Comm Sys Jrnymn	2E351	SSG	1	1	1	1	1	1	1	2	2
Secure Comm Sys Jrnymn	2E351	SRA		1	1	2	2	2	3	3	3
Secure Comm Sys Apr	2E331	A1C			1	1	1	2	2	2	2
TOTAL			1	2	3	4	5	6	7	8	9
AIR FORCE SPECIALTY TITLE	**AFSC**	**GRADE**	**MANPOWER REQUIREMENT**								
Secure Comm Sys Crftmn	2E371	MSG	1	1	1	1	1	1			
Secure Comm Sys Crftmn	2E371	TSG	1	2	2	2	2	3			
Secure Comm Sys Jrnymn	2E351	SSG	2	2	3	3	3	3			
Secure Comm Sys Jrnymn	2E351	SRA	3	3	3	4	4	4			
Secure Comm Sys Apr	2E331	A1C	3	3	3	3	4	4			
TOTAL			10	11	12	13	14	15			

AF Form 1113, JUN 91 (COMPUTER GENERATED). PREVIOUS EDITION IS OBSOLETE.

VARIANCES

Secure Communications Systems Maintenance Element

A3.1. Title. Positive Mission Variance for Performing Crypto Rekey.

A3.1.1. **Definition.** A Crypto Rekey encompasses obtaining COMSEC material, traveling to the equipment location, coordinating access and/or equipment release, performing rekeying procedure, performing operational check, performing equipment restoral, returning to work center, and destroying residual COMSEC material.

★A3.1.2. **Impact.** Yc = 6.525(X). Where X = the number of equipment items that the Secure Communications Systems Maintenance work center is responsible for rekeying.

★A3.1.3. **Applicability.** This variance only applies to those Secure Communications Systems Maintenance work centers that are required to perform crypto rekeyings (i.e., unmanned facilities and other locations where there are no other personnel responsible for performing rekeys).

A3.2. Title. Positive Mission Variance for Performing Synchronizer Equipment Maintenance.

A3.2.1. **Definition.** Performing synchronizer equipment maintenance encompasses performing preventive maintenance inspections (PMIs), fault isolation/repair, modifications, and traveling to and from equipment location.

★A3.2.2. **Impact.** Yc = 0.1950(X). Where X = the number of synchronizers maintained.

A3.2.3. **Applicability.** This variance applies to those functions that are required to maintain synchronizer equipment.

A3.3. Title. Positive Technology Variance for Performing Teletype Writer Equipment Maintenance.

A3.3.1. **Definition.** Since there is no standard configuration for teletypewriter equipment, this variance provides a man-hour value for each specific type of equipment. Performing maintenance on each type of teletypewriter equipment encompasses performing PMIs, fault isolation/repair, modifications, and traveling to and from equipment location.

★A3.3.2. **Impact.** Where X = the number of each specific equipment type listed above.

(1) DELTA DATA TERMINAL	Yc = 1.320(X)
(2) MODEL 35/37	Yc = 1.140(X)
(3) MODEL 40	Yc = 7.537(X)
(4) MXT 1200 PRINTER	Yc = 0.4526(X)
(5) UGC-54	Yc = 1.296(X)
(6) UGC-74	Yc = 2.988(X)
(7) UGC-129	Yc = 2.609(X)
(8) UGC-141	Yc = 11.41(X)

A3.3.3. **Applicability.** This variance applies to those functions that are required to maintain teletypewriter equipment.

A3.4. Title. Positive Technology Variance for Performing Encryption Device Equipment Maintenance.

A3.4.1. **Definition.** This variance is comprised of both data and voice encryption devices. Each type of equipment has its own man-hour value. Performing maintenance on these equipment items encompasses performing PMIs, fault isolation/repair, modifications, and traveling to and from equipment location.

★A3.4.2. **Impact.** Where X = the number of each specific equipment type listed above.

(1) KG-30 Family	Yc = 1.267(X)
(2) KG-40	Yc = 1.799(X)
(3) KG-44	Yc = 0.3670(X)
(4) KG-66	Yc = 0.1480(X)
(5) KG-82	Yc = 0.0720(X)
(6) KG-83	Yc = 0.7936(X)
(7) KG-95	Yc = 2.536(X)
(8) KG-109	Yc = 1.000(X)
(9) KGF-7	Yc = 1.032(X)
(10) KGF-28	Yc = 2.400(X)
(11) KGF-29	Yc = 0.3480(X)
(12) KGG-29	Yc = 0.3440(X)
(13) KGR-7	Yc = 0.5940(X)
(14) KGR-28	Yc = 0.3720(X)
(15) KGR-61	Yc = 0.4334(X)
(16) KGR-62	Yc = 0.5808(X)
(17) KGR-96	Yc = 1.461(X)
(18) KGT-7	Yc = 0.3430(X)
(19) KGT-61	Yc = 0.4828(X)
(20) KGT-62	Yc = 0.9065(X)
(21) KGV-9	Yc = 1.200(X)
(22) KGV-66	Yc = 0.1160(X)
(23) KI-25	Yc = 3.100(X)
(24) KI-111	Yc = 0.4860(X)
(25) KIV-7	Yc = 0.4460(X)
(26) KL-43	Yc = 0.07000(X)
(27) KL-51	Yc = 0.7810(X)
(28) KT-8	Yc = 2.536(X)
(29) KT-42	Yc = 3.100(X)
(30) KY-883	Yc = 0.1565(X)
(31) KYV-5	Yc = 0.6274(X)

A3.4.3. **Applicability.** This variance applies to those functions that are required to maintain encryption device equipment.

★**A3.5. Title.** Positive Technology Variance for Performing Power Supply Maintenance.

★A3.5.1. **Definition.** Performing power supply maintenance encompasses performing PMIs, fault isolation/repair, modifications, and traveling to and from equipment location.

★A3.5.2. **Impact.** Yc = 0.2000(X). Where X = the number of power supplies maintained.

★A3.5.3. **Applicability.** This variance applies to those functions that are required to maintain power supplies.

★**A3.6. Title.** Positive Mission Variance for Performing Multiplexer (MUX) Maintenance.

★A3.6.1. **Definition.** This variance is for all MUXs other than the MC^3, which is included in WLF X5. There are two equations for the additional MUXs, one for the TIMEPLEX MUX and one for all others. Performing MUX

maintenance encompasses performing PMIs, fault isolation/repair, modifications, and traveling to and from equipment location.

★A3.6.2. **Impact.** Where X = the number of MUXs maintained, as designated above. Do not include MC^3s here. They are included in WLF X5.

(1) TIMEPLEX MUX	Yc = 24.00(X)
(2) Other MUXs	Yc = 0.4002(X)

★A3.6.3. **Applicability.** This variance applies to those functions that are required to maintain MUXs.

★**A3.7. Title.** Positive Mission Variance for Maintaining North American Treaty Organization (NATO) Systems/Equipment.

★A3.7.1. **Definition.** This variance reflects the man-hours required to support NATO systems/equipment. Each system or type of equipment has its own man-hour value. Performing maintenance encompasses performing PMIs, fault isolation/repair, modifications, and traveling to and from equipment location.

★A3.7.2. **Impact.** Where X = the number of each system or equipment type listed above.

(1) SCARS II	Yc = 75.79(X)
(2) BID 950	Yc = 3.412(X)
(3) BID 1000	Yc = 0.7920(X)
(4) NATO SECURE VOICE (NSV)	Yc = 1.900(X)
(5) STANDARD INTERFACE EQUIPMENT (SIE)	Yc = 14.35(X)

★A3.7.3. **Applicability.** This variance applies to those functions that are required to maintain NATO systems/equipment. Do not count equipment separately that is included in a system.

★**A3.8. Title.** Positive Mission Variance for Performing STU-III/STU-V Support.

★A3.8.1. **Definition.** This variance reflects the man-hours required to provide support to STU-III/STU-V users. Performing STU-III /STU-V support encompasses performing initial installation and user training; assisting user in verifying equipment malfunctions prior to notifying contractor; assisting user in turn in of malfunctioning equipment; and performing maintenance documentation.

★A3.8.2. **Impact.** Yc = 0.04886(X). Where X = the number of STU-III/STU-Vs maintained.

★A3.8.3. **Applicability.** This variance applies to those functions that are required to perform STU-III/STU-V support.

★**A3.9. Title.** Positive Mission Variance for Performing Access Digital Network Exchange (ADNX)\Integrated Digital Network Exchange (IDNX) Maintenance.

★A3.9.1. **Definition.** Performing ADNX/IDNX maintenance encompasses performing PMIs, fault isolation/repair, modifications, and traveling to and from equipment location.

★A3.9.2. **Impact.** Yc = 5.200(X). Where X = the number of ADNX/IDNXs maintained.

★A3.9.3. **Applicability.** This variance applies to those functions that are required to maintain ADNX/IDNXs.

★**A3.10. Title.** Positive Mission Variance for Performing Integrated Weather Distribution System (IWDS) Maintenance.

★A3.10.1. **Definition.** Performing IWDS maintenance encompasses performing PMIs, fault isolation/repair, modifications, and traveling to and from equipment location.

★A3.10.2. **Impact.** Yc = 1.520(X). Where X = the number of IWDS terminals maintained.

★A3.10.3. **Applicability.** This variance applies to those functions that are required to maintain IWDS.

★**A3.11. Title.** Positive Technology Variance for Performing Tactical Facsimile (FAX) Equipment Maintenance.

★A3.11.1. **Definition.** Performing Tactical FAX equipment maintenance encompasses performing PMIs, fault isolation/repair, modifications, and traveling to and from equipment location.

★A3.11.2. **Impact.** Yc = 0.3840(X). Where X = the number of Tactical FAXs maintained.

★A3.113. **Applicability.** This variance applies to those functions that are required to maintain FAX equipment.

★**A3.12. Title.** Positive Mission Variance for Performing Test Equipment Maintenance.

★A3.12.1. **Definition.** Since there is no standard configuration for test equipment, this variance provides a man-hour value for each specific type of equipment. Each type of equipment has its own man-hour value. Performing maintenance on these equipment items encompasses performing PMIs, fault isolation/repair, modifications, and traveling to and from equipment location.

★A3.12.2. **Impact.** Where X = the number of each specific equipment type listed above.

(1) NIDA 130	Yc = 0.1009(X)
(2) ST-19	Yc = 0.3420(X)
(3) ST-31	Yc = 0.1200(X)
(4) ST-43	Yc = 0.6650(X)
(5) ST-44	Yc = 0.6180(X)
(6) STX-34	Yc = 0.1200(X)

★A3.12.3. **Applicability.** This variance applies to those functions that are required to maintain test equipment.

★**A3.13. Title.** Positive Mission Variance for Maintenance of Next Generation Weather Radar (NEXRAD) Primary User Processor (PUP).

★A3.13.1. **Definition.** Responsible for maintaining the PUP of the NEXRAD.

★A3.13.2. **Impact.** Yc = 18.00(X). Where X = the number of PUPs maintained.

★A3.13.3. **Applicability.** All locations where the work center is responsible for maintaining PUPs and there is no ATC Radar Maintenance Work Center.

★**A3.14 Title.** Positive Mission Variance for Performing SCAMPI (not an acronym) Network Maintenance.

★A3.14.1. **Definition.** Performing SCAMPI maintenance encompasses performing PMIs, fault isolation/repair, modifications, and traveling to and from equipment location.

★A3.14.2. **Impact.** Yc = 25.67 (constant)

★A3.14.3. **Applicability.** 16 CS, Hurlburt Field FL

★**A3.15. Title.** Positive Mission Variance for Performing Maintenance Support that Requires Temporary Duty (TDY) Travel.

★A3.15.1. **Definition.** Due to the distance of some sites from their work center, Secure Communications Systems Maintenance personnel are required to be on TDY status to provide maintenance support.

★A3.15.2. **Impact/Applicability:**

EQUIPMENT	TDY SITES	EQUATION	APPLICABLE UNIT
(1) KG-84	Cyprus & Belbasi	Yc = 11.21 (constant)	39 CS, Incirlik AB, TU
(2) KG-94	Ankara	Yc = 9.600 (constant)	39 CS, Incirlik AB, TU
(3) UGC-141	Chung Ju, Kim Hae, Kwang Ju, & Taegu	Yc = 56.00 (constant)	51 CS, Osan AB, ROK

★**A3.16. Title.** Positive Mission Variance for Performing Maintenance on Encryption Devices at Designated Central Repair Activities (CRA).

★A3.16.1. **Definition.** CRA Maintenance encompasses receiving malfunctioning equipment; performing fault isolation/repair and modifying; packing and/or shipping equipment; and documenting equipment action.

★A3.16.2. **Impact/Applicability:**

(1) Yc = 12.00 (constant)	305 CS, McGuire AFB, NJ
(2) Yc = 20.00 (constant)	86 CS, Ramstein AB, GE

★**A3.17. Title.** Positive Mission Variance for Portable Public Address (PA) Support.

★A3.17.1. **Definition.** Providing PA Support encompasses performing PMIs and fault isolation/repair, as well as set up, removal, and transporting of equipment to and from requested location.

★A3.17.2. **Impact.** $Yc = 10.95 (X_1) + 0.1122 (X_2)$. Where X_1 = average number of PA setups per month, and X_2 = average miles traveled per month. ***Note:*** Include only the miles traveled that were in direct support of this variance.

★A3.17.2.1. **Workload Factor Definition for X_1.** The average monthly number of PA setups performed supporting direct military duty events such as commander calls, dining ins/outs, change of command ceremonies, parades, and where commanders have tasked the unit to provide communications support for VIPs.

★A3.17.2.2. **Workload Factor Definition for X_2.** The average monthly miles traveled providing portable PA support.

★A3.17.3. **Applicability.** 61 CS, Los Angeles AFB CA

★**A3.18. Title.** Positive Mission Variance for Military Affiliate Radio System (MARS) Ancillary Equipment Maintenance.

★A3.18.1**. Definition.** Performing MARS ancillary equipment maintenance encompasses performing PMIs, fault isolation/repair, modifications, and traveling to and from equipment location.

★A3.18.2. **Impact.** Yc = 41.50 (constant).

★A3.18.3. **Applicability.** 61 CS, Los Angeles AFB CA

★**A3.19. Title.** Positive Mission Variance for Support of General Officers and Other High-level Dignitaries Visiting the Air Staff Offices on Bolling AFB.

★A3.19.1. **Definition.** Support of these individuals encompasses installation, set up, and removal of Secure Communications equipment; and travel to and from the requested location.

★A3.19.2. **Impact.** Yc = 30.00 (constant).

★A3.19.3. **Applicability.** 11 CS, Bolling AFB DC

★**A3.20. Title.** Positive Mission Variance for Secure Communications Support of CSAF Visits to Durango CO.

★A3.20.1. **Definition.** Support of CSAF visits encompasses installation, set up, and removal of secure communications equipment, and TDY travel to and from Durango CO.

★A3.20.2. **Impact.** Yc = 16.67 (constant)

★A3.20.3. **Applicability.** 377 CS, Kirtland AFB NM. ***Note:*** This variance is in effect until FY97-4, unless upon revalidation, it is determined to still be required. If it is determined to still be required, it must be revalidated each time the AFMS is applied.

A3.21. Title. Negative Mission Variance for Performing Secure Communications Systems Maintenance.

★A3.21.1. **Definition.** At units where the Secure Communications Systems Maintenance work center fractional manpower equates to 0.4999 or less, that work center's responsibilities will be assumed by another existing maintenance work center that utilizes personnel in a 2EXXX career field. If the fractional manpower earned is between 0.5000 and 0.9999, the MAJCOM has the option of having the Secure Communications Systems Maintenance work center responsibilities assumed by another existing maintenance work center that utilizes personnel in a 2EXXX career field, or placing one 2E3X1 authorization in FAC 38AG00 under another work center for management purposes.

★A3.21.2. **Applicability.** This variance applies to units that earn one authorization for Secure Communications Systems Maintenance.

★PROCESS ANALYSIS SUMMARY

Secure Communications Systems Maintenance Element

The following provides the core manpower requirements for each process:

PROCESS TITLE	CORE M-HRS	FRACTIONAL MANPOWER
Performs Equipment PMI	52.550	0.3270
Performs Equipment Fault Isolation/Repair	39.830	0.2479
Performs Circuit Troubleshooting	66.413	0.4133
Performs Contingency Circuit Action	12.280	0.0764
Processes COMSEC Material	34.701	0.2160
Performs Equipment Modification	1.759	0.0109
Performs Equipment Relocation/Installation/Removal	68.347	0.4253
Conducts Customer Education	2.433	0.0151
Performs Equipment Supply Action	14.801	0.0921
Performs Travel	19.383	0.1206
	TOTAL CORE MANPOWER =	**1.9446**

★ELEMENT APPLICATION WORKSHEET

Secure Communications Systems Maintenance Element

INSTRUCTIONS: If you match the core "EQUIPMENT QUANTITY" listed in Section 1, your manpower requirements are 2. If you do not match the core, proceed to Section 2 and complete the remainder of this worksheet. Refer to Attachment 3 for variance titles, definitions, impacts, and applicability. Refer to paragraph 2 (Standard Data) for core WLF titles, definitions, and sources of count.

SECTION 1. CORE MANPOWER CALCULATIONS:

WLF	QUANTITY		VALUE		M-HRS
A. A KG-81 MAINTAINED (X_1)	8	X	1.252	=	10.016
B. A KG/SG-84 MAINTAINED (X_2)	100	X	0.9240	=	92.400
C. A KG-94/194 MAINTAINED (X_3)	33	X	1.788	=	59.004
D. A PATCH PANEL MAINTAINED (X_4)	23	X	0.2980	=	6.854
E. A MC^3 MAINTAINED (X_5)	2	X	4.763	=	9.526
F. A MODEM MAINTAINED (X_6)	19	X	0.1182	=	2.246
G. A SECURE VOICE SYSTEM MAINTAINED (KY-57/58, 65/75, 67/68, 99/100) (X_7)	37	X	1.515	=	56.055
H. A CIRCUIT MAINTAINED (X_8)	78.96	X	0.9674	=	76.386
	TOTAL CORE M-HRS			=	312.487

SECTION 2. CORE VARIABLE MAN-HOUR CALCULATIONS:

WLF	QUANTITY		VALUE		M-HRS
A. A KG-81 MAINTAINED (X_1)		X	1.252	=	
B. A KG/SG-84 MAINTAINED (X_2)		X	0.9240	=	
C. A KG-94/194 MAINTAINED (X_3)		X	1.788	=	
D. A PATCH PANEL MAINTAINED (X_4)		X	0.2980	=	
E. A MC^3 MAINTAINED (X_5)		X	4.763	=	
F. A MODEM MAINTAINED (X_6)		X	0.1182	=	

G. A SECURE VOICE SYSTEM MAINTAINED (KY-57/58, 65/75, 67/68, 99/100) (X_7)	X	1.515	=
H. A CIRCUIT MAINTAINED (X_8) Quantity = [(Sum of X_1, X_2 &X_3)(0.5600)]	X	0.9674	=
TOTAL CORE VARIABLE M-HRS			=

SECTION 3. VARIANCE MAN-HOUR COMPUTATIONS:

TITLE	QUANTITY	VALUE	M-HRS
A. PERFORMS CRYPTO REKEY	X	6.525	=
B. PERFORMS SYNCHRONIZER MAINTENANCE	X	0.1950	=
C. PERFORMS TELETYPE WRITER EQUIP MAINT:			
DELTA DATA TERMINAL	X	1.320	=
MODEL 35/37	X	1.140	=
MODEL 40	X	7.537	=
MXT 1200 PRINTER	X	0.4526	=
UGC-54	X	1.296	=
UGC-74	X	2.988	=
UGC-129	X	2.609	=
UGC-141	X	11.41	=
D. PERFORMS ENCRYPTION DEVICE EQUIP MAINT:			
KG-30 (FAMILY)	X	1.267	=
KG-40	X	1.799	=
KG-44	X	0.3670	=
KG-66	X	0.1480	=
KG-82	X	0.0720	=
KG-83	X	0.7936	=
KG-95	X	2.536	=
KG-109	X	1.000	=
KGF-7	X	1.032	=
KGF-28	X	2.400	=
KGF-29	X	0.3480	=
KGG-29	X	0.3440	=
KGR-7	X	0.5940	=
KGR-28	X	0.3720	=
KGR-61	X	0.4334	=
KGR-62	X	0.5808	=
KGR-96	X	1.461	=
KGT-7	X	0.3430	=
KGT-61	X	0.4828	=
KGT-62	X	0.9065	=
KGV-9	X	1.200	=
KGV-66	X	0.1160	=
KI-25	X	3.100	=
KI-111	X	0.4860	=

KIV-7		X	0.4460	=
KL-43		X	0.07000	=
KL-51		X	0.7810	=
KT-8		X	2.536	=
KT-42		X	3.100	=
KY-883		X	0.1565	=
KYV-5		X	0.6274	=
E. PERFORMS POWER SUPPLY MAINTENANCE		X	0.2000	=
F. PERFORMS MULTIPLEXER MAINTENANCE:				
TIMEPLEX MUX		X	24.00	=
Other MUXs		X	0.4002	=
G. PERFORMS NATO EQUIP MAINTENANCE:				
SCARS II		X	75.79	=
BID 950		X	3.412	=
BID 1000		X	0.7920	=
NATO SECURE VOICE (NSV)		X	1.900	=
STANDARD INTERFACE EQUIPMENT (SIE)		X	14.35	=
H. PROVIDES STU-III/STU-V SUPPORT		X	0.04886	=
I. PERFORMS ADNX/IDNX MAINTENANCE		X	5.200	=
J. PERFORMS IWDS MAINTENANCE		X	1.520	=
K. PERFORMS TACTICAL FAX MAINTENANCE		X	0.3840	=
L. PERFORMS TEST EQUIP MAINTENANCE:				
NIDA 130		X	0.1009	=
ST-19		X	0.3420	=
ST-31		X	0.1200	=
ST-43		X	0.6650	=
ST-44		X	0.6180	=
STX-34		X	0.1200	=
M. PERFORMS NEXRAD PUP MAINTENANCE		X	18.00	=
N. PERFORMS SCAMPI NETWORK MAINTENANCE:				
16 CS, HURLBURT FLD FL	CONSTANT		25.67	=
O. PERFORMS TDY FOR MAINTENANCE SUPPORT:				
39 CS, INCIRLIK AB FOR KG-84	CONSTANT		11.21	=
39 CS, INCIRLIK AB FOR KG-94	CONSTANT		9.600	=
51 CS, OSAN AB FOR UGC-141	CONSTANT		56.00	=
P. PERFORMS CRA MAINTENANCE:				
305 CS, MCGUIRE AFB	CONSTANT		12.00	=
86 CS, RAMSTEIN AB	CONSTANT		20.00	=

Q. PROVIDES PORTABLE PA SUPPORT BY 61 CS, LOS ANGELES AFB CA:				
PA SETUPS		X	10.95	=
MILES TRAVELED		X	0.1122	=
R. PERFORMS MARS ANCILLARY EQUIPMENT MAINTENANCE:				
61 CS, LOS ANGELES AFB CA	CONSTANT		41.50	=
S. SUPPORTS GENERAL OFFICERS AND OTHER HIGH LEVEL DIGNITARIES VISITING THE AIR STAFF OFFICES ON BOLLING AFB:				
11 CS, BOLLING AFB DC	CONSTANT		30.00	=
T. SUPPORTS CSAF VISITS TO DURANGO CO				
377 CS KIRTLAND AFB NM	CONSTANT		16.67	=
	TOTAL VARIANCE M-HRS			=

SECTION 4. MANPOWER CALCULATIONS:

1. Sum the results from sections 1-4 as applicable = ____

2. Divide the total earned man-hours by the appropriate MAF and overload factor.

3. The result is the fractional manpower = ____ (If results are less than 1.000 refer to variance A3.21.)

4. Use current rounding rules to determine the whole manpower requirement = ____

5. Refer to Attachment 2 for appropriate skill and grade mix.